

REMARKS

In response to the pending Office Action, claim 1 has been amended and claims 6 and 11 have been canceled. Support for the present amendments may be found in the application at page 21, line 15 to page 23, line 2. No new matter has been introduced. For the reasons set forth below, Applicants respectfully submit that all pending claims as currently amended are patentable over the cited prior art.

Claim Rejections – 35 U.S.C. § 102

Claims 1, 2, and 5-12 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent Number 6,003,051 (“Okazaki”). Applicants respectfully traverse this rejection for at least the following reasons.

As amended, claim 1 recites a reproduction signal processing device including an A/D converter for quantizing an input analog reproduction signal into digital reproduction signal data; an adaptive equalizer for equalizing the reproduction signal data with a characteristic controlled according to data input to the adaptive equalizer and data output from the adaptive equalizer; and a PLL circuit for outputting a clock signal which is in synchronization with the reproduction signal data. The reproduction signal processing device also includes an analog filter for removing noise from the reproduction signal; a digital filter provided between the A/D converter and the adaptive equalizer, the digital filter equalizing the reproduction signal data with a fixed characteristic; and a control section for determining the fixed characteristic of the digital filter during a learning period and setting, after the learning period, the characteristic of the digital filter by synthesizing the characteristic of the digital filter with a characteristic of the adaptive equalizer converged by the operation of the adaptive equalizer.

Applicants respectfully request reconsideration and withdrawal of the rejection of claim 1 and its dependent claims because Okazaki, at a minimum, fails to describe or suggest a reproduction signal processing device that includes, among other features, an adaptive equalizer for equalizing the reproduction signal data with a characteristic controlled according to data input to the adaptive equalizer and data output from the adaptive equalizer and a control section for determining the fixed characteristic of the digital filter during a learning period and setting, after the learning period, the characteristic of the digital filter by synthesizing the characteristic of the digital filter with a characteristic of the adaptive equalizer converged by the operation of the adaptive equalizer, as recited in claim 1 (emphasis added).

Okazaki, in FIG. 1, discloses a magnetic storing device that includes, among other features, a disk (1), a head (2), a head amplifier (6), an AGC amplifier (8), an analog filter (9), an A/D converter (10), and an FIR filter 11. Okazaki at col. 7, line 35 to col. 8, line 23. In operation, head (2) reads a signal from disk (1) and provides the signal to head amplifier (6), which amplifies the signal and supplies it to AGC amplifier (8). Okazaki at col. 9, lines 30-36. The AGC amplifier (8) amplifies the signal to a specific amplitude so that the signal may lie in the dynamic range of A/D converter (10). *Id.* The A/D converter (10) converts the signal into digital data, which is subjected to PR equalization at FIR filter (11). Okazaki at col. 9, lines 36-40.

Although Okazaki describes a reproduction signal processing device, it does not describe or otherwise suggest a reproduction signal processing device that includes an adaptive equalizer for equalizing the reproduction signal data with a characteristic controlled according to data input to the adaptive equalizer and data output from the adaptive equalizer, as recited in claim 1 (emphasis added). The Office Action, in the second page, asserts that FIR filter (11) of Okazaki

corresponds to the adaptive equalizer recited in claim 1, while, in the third page, asserts that FIR filter (11) of Okazaki corresponds to the digital filter recited in claim 1. *See e.g.*, Office Action at page 2, line 21 to page 3, line 11. As such, the Office Action takes an inconsistent position with respect to teachings of Okazaki (e.g., asserting that FIR filter (11) reads on the adaptive equalizer and the digital filter). Applicants respectfully submit that the adaptive equalizer and the digital filter recited in claim 1 are two structurally different features, and, as such, they cannot each be taught by FIR filter (11).

Applicants respectfully submit that Okazaki fails to describe or suggest a reproduction signal processing device that includes an adaptive equalizer for equalizing the reproduction signal data with a characteristic controlled according to data input to the adaptive equalizer and data output from the adaptive equalizer, as recited in claim 1 (emphasis added). Additionally, because Okazaki fails to describe or suggest an adaptive equalizer, it cannot describe or suggest a control section for determining the fixed characteristic of the digital filter during a learning period and setting, after the learning period, the characteristic of the digital filter by synthesizing the characteristic of the digital filter with a characteristic of the adaptive equalizer converged by the operation of the adaptive equalizer, as recited in claim 1 (emphasis added).

For at least these reasons, Applicants respectfully request that the § 102 rejection of claim 1 and its dependent claims be withdrawn.

Dependent Claims

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplicatic Engineering Co.*,

819 F.2d at 1100, 1108 (Fed. Cir. 1987). Because claim 1 is allowable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also allowable. In addition, it is respectfully submitted that the dependent claims are allowable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejection under §§ 102, 103 be withdrawn.

Conclusion

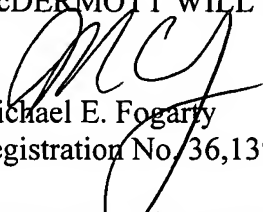
Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

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To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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